AXTAL ADVANCED XTAL PRODUCTS

Specification	AXX35	Rev.: 2	Date: 2014-05-09

Type: **Quartz Crystal Unit in package HC-35/U (TO-5)**

Parameter	min.	typ.	Max.	Unit	Condition
Frequency range	5 20 50 100 140		40 100 160 210 250	MHz MHz MHz MHz MHz	Fundamental 3rd overtone 5th overtone 7th overtone 9th overtone
Crystal cut	AT				
Load capacitance C_L	Series or 5 pF to 50 pF				
Adjustment tolerance @25°C	± 5 to ± 50			ppm	See ordering code
Frequency stability					
Frequency stability over temperature	± 3 to ± 50			ppm	See table 1 and ordering code
Operating temperature range	0°/50° to -55°/+105°			°C	
Long term (aging) per year		±2	±3	ppm	@ 40°C
Series resonance resistance R_1				Ω	See chart
Motional capacitance C_1				fF	Note 3
Static capacitance C_0			7	pF	
Nominal drive level		100		µW	
Drive level dependence (DLD)	According to				IEC 60444-6
Unwanted responses SF = Rspur/R1					Note 3
Insulation resistance	100			MΩ	100 V DC
Storage temperature range	-55		+105	°C	
Enclosure (see drawing)	HC-35/U Resistance weld				IEC 60122-3
Packing	bulk				
RoHS compliant	YES				

Notes:

1. Terminology and test conditions are according to IEC standard IEC60122-1 or MIL-C3098
2. Measurement technique according to IEC 60444-5 or equivalent
3. On request. Please consult factory

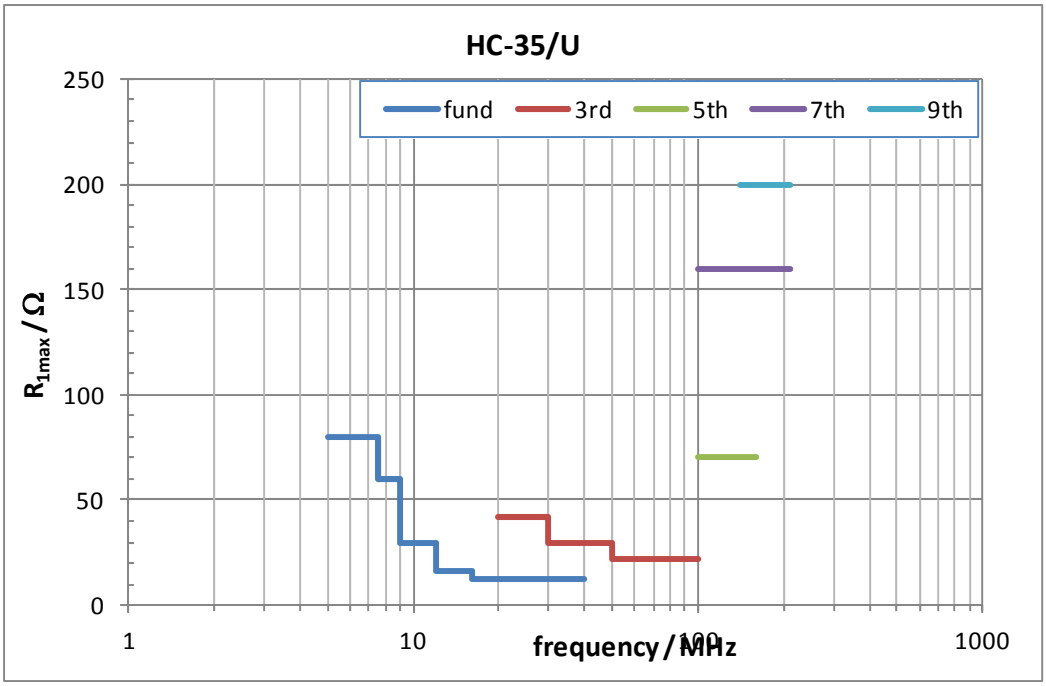
Table 1: Frequency stability over temperature

Temperature Range [°C]	ppm Code	±3 03	±4 04	±5 05	±7 07	±10 10	±15 15	±20 20	±25 25	±30 30	±40 40	±50 50
0 … +50	0A	O	X	X	X	X	X	X	X	X	X	X
-10 … +60	1B	-	O	X	X	X	X	X	X	X	X	X
-20 … +70	2C	-	-	O	X	X	X	X	X	X	X	X
-30 … +80	3E	-	-	-	O	X	X	X	X	X	X	X
-40 … +85	4F	-	-	-	-	-	O	X	X	X	X	X
-55 … +105	5G	-	-	-	-	-	-	-	O	X	X	X

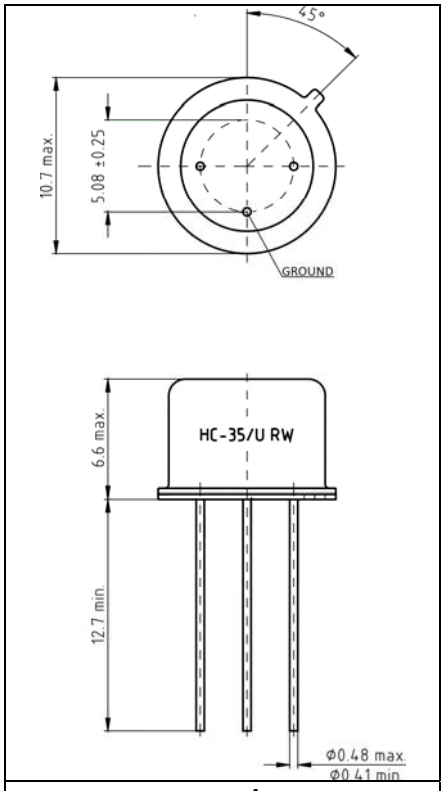
X = available*, **O** = available on request, **-** not available

*Other temperature ranges on request

Maximum series resonance resistance $R_{1\ max}$ [Ω]



Enclosure drawing



HC-35/U

Ordering Code

Model	Frequency	Load Cap	Mode	Adjustment	Stability	
AXX35	[MHz]	[pF] or S= Series	1 = Fund 3,5,…OT	[ppm]	[ppm]	[Code]
AXX35	10.000	18	1	05	05	1B

Example for HC-35/U: AXX35-10.000-18-1-05-05-1B

Environmental conditions

Test	IEC 60068-2 Part …	IEC 60122-1 Clause …	Test conditions
Sealing tests	2-17	4.8.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20	4.8.3	Test Ta (235 ± 5)°C Method 1 Test Tb Method 1A, 5s
Shock	2-27	4.8.8	Test Ea, 3 x per axes 100g, 6 ms half-sine pulse
Free fall	2-32	4.8.9	Test Ed procedure 1, 2 drops from 1m height
Vibration, sinusoidal	2-6	4.8.7	Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 1 kHz, 10g
Endurance tests - ageing - extended aging		 4.9.1 4.9.2	 30 days @ 85°C 1000h, 2000h, 8000h @85°C

Revision History

Rev.	Date [dd.mm.yyyy]	Remarks	Author	Checked
1	15.01.2005	First issue	BN	BN
2	09.05.2014	Major editorial changes, order code changed	BN	BN